

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 09-215894

(43)Date of publication of application : 19.08.1997

(51)Int.Cl.

D06F 37/04

(21)Application number : 08-027544

(71)Applicant : MATSUSHITA ELECTRIC IND CO

LTD

(22)Date of filing : 15.02.1996

(72)Inventor: IWAIRI SHUNICHI

OTSUKA KIMIHIKO

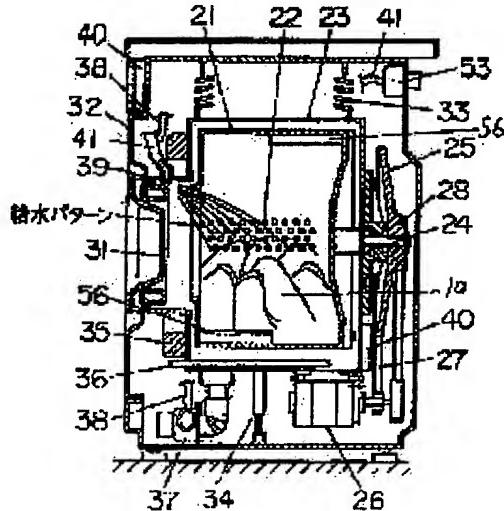
SUMIYA KATSUHIKO

(54) WASHING MACHINE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a washing machine which can increase the efficiency of washing, rinsing, etc., by preventing twisting of the washing caused by a plurality of baffles provided on the peripheral surface of a washing/spin-drying tub.

SOLUTION: This washing machine has a washing/spin-drying tub 21, having a horizontally rotating shaft 24 and having a water hole 22 provided on its outer periphery, and a controller 40 for controlling current passed to a motor 26 that drives and rotates the tub 21. The tub 21 has a plurality of baffles 56 provided along the direction of the axis of its interior wall part, the baffles 56 being shorter than the tub 21 with at least one of them deviating from the others in the direction of the axis.; the control means 40 drives and rotates the tub 21 back and forth, so that the washing machine that is efficient in washing, rising, etc., can be obtained.



LEGAL STATUS

[Date of request for examination]

13.12.2001

[Date of sending the examiner's decision of rejection] 23.03.2004

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

*** NOTICES ***

JPO and INPI are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]**[0001]**

[Field of the Invention] This invention relates to the washing machine which performs wash, a rinse, etc. of the washing using wash-cum-the dehydration tack which has a revolving shaft horizontally and prepared the water flow hole in the peripheral surface.

[0002]

[Description of the Prior Art] The conventional washing machine is explained using drawing 16. As shown in drawing, six baffles 9 are formed in the dehydration tack [wash-cum-] 3 wall section which rotates in the same direction, and these baffles 9 are arranged, the direction of a revolving shaft, i.e., the horizontal direction, of wash-cum-the dehydration tack 3, and, moreover, are shifted and formed forward and backward by turns. As shown in drawing 17 in the cases, such as wash and a rinse, rotated wash-cum-the dehydration tack 3 in the same direction of A, i.e., the direction, could scratch the washing of that interior to this baffle 9, and raised, when it became suitable height, it was made to fall, and it was made to collide with the inner pars basilaris ossis occipitalis of wash-cum-the dehydration tack 3. And beat washing of the washing was carried out according to the impulse force. Moreover, since the width of face W2 of this baffle 9 slipped down from the part in which a baffle 9 is not formed since it is the die length of the abbreviation one half of the width of face W1 of wash-cum-the dehydration tack 3 so that the washing 10 may twist, the twist force of the direction of arrow-head B joined the falling washing 10, and it had the effectiveness of twist washing by this twist force.

[0003]

[Problem(s) to be Solved by the Invention] However, with the above-mentioned conventional configuration, since wash-cum-the dehydration tack 3 rotated only in the same direction (the direction of arrow-head A), only the twist force of the same direction of arrow-head B, i.e., the direction, always joined the washing with the baffle 9, but the washing 10 had the technical problem that effectiveness, such as tangling, and wash, a rinse, worsened as rotation of wash-cum-the dehydration tack 3 therefore advanced.

[0004]

[Means for Solving the Problem] Wash-cum-the dehydration tack which this invention has a revolving shaft horizontally and prepared the water flow hole in the peripheral surface in order to solve the above-mentioned technical problem, It has the control means which controls the energization to the motor which carries out the rotation drive of said wash-cum-dehydration tack. By said wash-cum-dehydration tack's forming two or more baffles in the direction of a revolving shaft of the wall section, and these baffles being shorter than the width of face of wash-cum-said dehydration tack, and at least one shifting in the direction of a revolving shaft, and allotting Since twist for the washing, the force is applied, and effectiveness, such as wash and a rinse, is raised and the forward inverse rotation drive of said wash-cum-dehydration tack is carried out by said control means while being able to make into hard flow torsion added to the washing by reversing wash-cum-a dehydration tack and being able to prevent tangling of the washing, it comes out to move the washing to a cross direction according to the impulse

force in the case of reversing wash-cum-a dehydration tack etc., and uniform wash, rinse, etc. can be performed.

[0005]

[Embodiment of the Invention] Wash-cum-the dehydration tack which invention of this invention according to claim 1 has a revolving shaft horizontally, and prepared the water flow hole in the peripheral surface, The tank which connotes said wash-cum-dehydration tack, and the motor which carries out the rotation drive of said wash-cum-dehydration tack, Have the control means which controls the energization to said motor, and said wash-cum-dehydration tack forms two or more baffles in the direction of a revolving shaft of the wall section. And by these baffles being shorter than the width of face of wash-cum-said dehydration tack, and at least one shifting in the direction of a revolving shaft, and allotting When a twist is added to the washing, effectiveness, such as wash and a rinse, is raised and said control means carries out inverse rotation of said wash-cum-dehydration tack to suitable timing it comes out to move the washing to a cross direction according to the impulse force in the case of carrying out to the case of normal rotation of the direction of a twist of the washing to hard flow, and preventing tangling of the washing, and reversing wash-cum-a dehydration tack etc., and uniform wash, rinse, etc. can be performed.

[0006] Invention of this invention according to claim 2 is what made the front face of a baffle concave convex, and in case the washing slides down a baffle, the concave convex on the front face of a baffle can carry out the same work as a washboard, and it can gather effectiveness, such as wash and a rinse. Moreover, invention of claim 3 and four publications is what made the concave convex on the front face of a baffle the shape of the shape of a wave, and a dimple, and work of a washboard is obtained similarly and it can gather effectiveness, such as wash and a rinse.

[0007] Invention of this invention according to claim 5 to the field which lifts the washing on the front face of a baffle It is what formed the crevice and heights which are prolonged horizontally and formed the crevice and heights which are prolonged in the direction of the center of rotation of wash-cum-a dehydration tack in the end face which is not in contact with the flank of wash-cum-said dehydration tack on the front face of a baffle. The crevice and heights which were formed in the baffle end face also to the washing slid down from the end face of a baffle carry out work equivalent to a washboard, the mechanical power for wash and a rinse is obtained also in end faces other than the field which lifts the washing, and effectiveness, such as wash and a rinse, can be gathered further.

[0008] Invention of this invention according to claim 6 is what the height of the end of the baffle located in the flank side of wash-cum-a dehydration tack set up more highly than the height by the side of the other end. The washing moves to a side with a low baffle from a side with an expensive baffle by rotation of wash-cum-a dehydration tack. After all, the washing will fall from a side with a low baffle, can drop the washing to the central site of wash-cum-a dehydration tack, and the washing can be hooked on a baffle, and can be lifted and it can always drop it.

[0009] Two or more front baffles with which invention of this invention according to claim 7 is located in the anterior part side of wash-cum-a dehydration tack in a baffle; It constitutes from two or more back baffles located in a posterior part side, and a front baffle and a back baffle are what is set up so that a difference may arise in migration of the cross direction of the washing. The washing can be moved during rotation of wash-cum-a dehydration tack by work of an order baffle at a cross direction, the motion before and behind the washing can increase at the time of rotation of wash-cum-a dehydration tack, wash and rinse unevenness can be abolished, and effectiveness, such as wash and a rinse, can be gathered. Moreover, since invention given in claims 8, 9, and 10 is changing height and die length further in the height of a front baffle and a back baffle, and length, it can act so that a front baffle and a back baffle may move the washing forward and backward, and can gather effectiveness, such as wash and a rinse.

[0010]

[Example]

(Example 1) Drawing 1 - drawing 7 explain the 1st example of this invention hereafter. As shown in drawing 1, a drum (wash-cum-dehydration tack) 21 forms many water flow holes 22 all over a

peripheral surface, and it is arranging them so that rotation may become horizontally free in a tank 23. The end of a revolving shaft 24 is fixed to the rear-face side of a drum 21, and the drum pulley 25 of path size is fixed to the other end of a revolving shaft 24. The wash motor 26 is connected with the drum pulley 25 of path size with a belt 27, and carries out the rotation drive of the drum 21. Moreover, as the small-diameter drum pulley 28 is fixed to the end of a revolving shaft 24 and it is shown in drawing 2, the turning effort of the dehydration motor 29 is the configuration transmitted to the small-diameter drum pulley 28 through a belt 30.

[0011] The wash motor 26 rotates a drum 21 at a low speed (for example, 53rpm), and the dehydration motor 29 rotates a drum 21 at high speed (for example, 1000rpm). The drum pulleys 25 and 28 for constituting these wash motor 26 and the dehydration motor 29 from an induction motor, and transmitting each turning effort have a reduction gear ratio different, respectively.

[0012] At the time of wash and a rinse, the turning effort of the wash motor 26 is transmitted to the pulley 25 of path size with a large reduction gear ratio, low-speed rotation of the drum 21 is carried out, at the time of dehydration, after a drum 21 is risen to a certain rotational frequency by the wash motor 26, the dehydration motor 29 is rotated, the turning effort of the dehydration motor 29 is transmitted through the small-diameter pulley 28 with a small reduction gear ratio, and high-speed rotation of the drum 21 is carried out at it. Thus, with constituting, even if the dehydration motor 29 does not have big driving torque, it can fully be started to high-speed rotation, and it can realize the miniaturization of the dehydration motor 29.

[0013] Moreover, opening was prepared also in front opening of a drum 21, and tank 23 front face which counters, and the lid 31 is formed in opening of a tank 23 free [closing motion]. Moreover, a tank 23 hangs with the spring object 33 from the body 32 of a washing machine, and while carrying out the elastic suspension so that vibration generated with the vibrationproofing damper 34 in case a drum 21 is rotated may not be transmitted to the body 32 of a washing machine, he is trying to reduce the vibration at the time of forming weight 35 in a tank 23, carrying out high-speed rotation of the drum 21, and carrying out centrifugal hydroextraction of the washing.

[0014] He arranges the heater 36 which is a kind of a heating means on the inner pars-basilaris-ossis-occipitalis side of a tank 23, and is trying to heat the water collected in the tank 23. A heater 36 uses a sheath heater preferably in consideration of a water resisting property etc. Furthermore, the end side of the circulating pump 37 which sucks in water from opening prepared in the pars basilaris ossis occipitalis of a tank 23, the circulation hose 38 connected with the delivery side of this circulating pump 37, and this circulation hose 38 is connected, and the circulation means consists of deliveries 39 which face in a drum 21. This delivery 39 is the location which attends front opening of a drum 21, and is arranged above a drum 21, and carries out the regurgitation of the water towards the core of a drum 21. Moreover, a delivery 39 is a configuration which carries out the regurgitation of the tap water from a delivery 39 by opening the feed valve 53 which the water supply hose 41 for supplying water in a drum 21 is also connected, and attached tap water in the back section of a body 32.

[0015] A control unit 40 controls the wash motor 26, the dehydration motor 29, a heater 36, a circulating pump 37, a feed valve 53, etc., and as shown in drawing 3, it constitutes them. A control means 40 sends out a control signal to the gates G1-G7 of the power switching means 42-48 which constituted from a microcomputer and were constituted from a bidirection thyristor etc., and controls actuation of the wash motor 26, the dehydration motor 29, a heater 36, a circulating pump 37, a feed valve 53, etc. The power switching means 42 controls the energization to a relay coil 49, and controls turning on and off of an electric power switch 50. The power switching means 45 controls the energization to a relay coil 51, controls turning on and off of these relay contact 52a and 52b, and performs energization control of a heater 36. in addition -- about water for 54 to detect the water level accumulated in the tank 23 -- a detection means -- it is -- for example, the water level in a tank 23 -- a convention -- a thing which will output a signal if water level is reached, or the thing which can detect the water level in a tank 23 on a stepless story -- it is -- ***ing -- in short -- the water level in a tank 23 -- a convention -- what is necessary is just to be able to detect whether water level was reached Moreover, 55 is a temperature detection means to detect the temperature of the water which collected in the tank 23, it controls

energization of a heater 36 based on the detection temperature of this temperature detection means 55, and it performs a temperature control so that the water temperature in a tank 23 may become 30 degrees C.

[0016] The baffle 56 which is the description of this invention is formed in the six directions of a revolving shaft of the wall section of a drum 21, as shown in drawing 4 (a). Although the width of face W2 of a baffle 56 is good in it being longer than the one half of the width of face W1 of a drum 21, since the twist force by the baffle 56 which will be later mentioned if too not much long decreases, Since effectiveness, such as wash and a rinse, falls, and the part which is not run through its washing will exist and the effectiveness of wash and a rinse will fall similarly if W2 is too short, it sets to this example. Width of face W2 of a baffle 56 is made into the die length of the abbreviation one half of the width of face W1 of the drum 21 which is the suitable die length which it twists for the washing and the force joins. If the side which has prepared the revolving-shaft 24 grade for the side which has prepared the delivery 39 grade in the drum 21 of drawing 1 here the anterior part side is made into a posterior part side, six baffles 56 would allot front baffle 56a located in the anterior part side of a drum 21 at intervals of [three] 120 degrees, as shown in drawing 4 (b), and will arrange back baffle 56b located in a posterior part side at intervals of [three] 120 degrees. 60 gaps are prepared in front baffle 56a and back baffle 56b. Moreover, although a baffle 56 is made into the configuration of the abbreviation triangle pole and is good also as a product made from a sheet metal, it is made to become for it to be desirable and easy [formation of the irregularity of baffle 56 front face etc.] as a product made of resin.

[0017] Actuation of the washing machine constituted as mentioned above is explained. If open a lid 31, the washing and a detergent are thrown in in a drum 1, a lid 31 is closed and operation is started, a feed valve 53 will be opened and tap water will be sent out to a delivery 39 through the water supply hose 41. The delivery 39 has the shower function, covers the large area in a drum 1, and makes water breathe out. this water supply actuation -- the inside of a tank 23 -- a convention -- it continues until the water of water level collects. This convention water is a lower part from the minimum peripheral surface of a drum 21, and the heater 36 is set as height which sinks.

[0018] the water level in a tank 23 -- a convention -- whether water level was reached detects at least water with the detection means 54 -- having -- **** -- a control unit 40 -- about water -- the detection means 54 -- a convention -- if it detects having reached water level, a control unit 40 will operate a circulating pump 37, and will supply water in a drum 21 from a delivery 39. if only the amount of the water in the circulation hose 38, the water under emission in a drum 21, and the water that absorbed water for the washing 56 has the fall of this water level although the water level in a water tank 23 falls when this circulating pump 37 is operated -- about water -- detection of the detection means 54 -- water level -- a convention -- the water-supply actuation by the feed valve 53 since it falls from water level -- continuing -- a convention -- if water level is reached, the water-absorption valve 53 will be closed.

[0019] moreover, the control unit 40 -- a convention -- if water level is reached, while operating a heater 36, a temperature control is performed so that the water temperature in a tank 23 may be detected with the temperature detection means 55 and the detected water temperature may become 30 degrees C. The reason for not performing energization to a heater 36 until it reaches at least convention water here is for a heater 36 to prevent certainly exposing above the water surface of water collected on the tank 23, and to prevent the preburn condition of a heater 36 certainly by operating a circulating pump 37. in addition -- as the timing which starts the energization to a heater 36 -- a convention -- after passing for 5 minutes after the time of opening sufficient time delay 53, for example, a feed valve, reaching water level, it may be made to carry out energization initiation at a heater 36.

[0020] moreover, the control unit 40 -- about water -- detection of the detection means 54 -- water level -- a convention -- when water level is reached, it energizes on the wash motor 26 and right-hand side is made to rotate a drum 21 And the energization to the wash motor 26 is stopped, subsequently to the wash motor 26 it energizes, and the RLC of the drum 21 is carried out. Energization control to the wash motor 26 is performed by repeating the ON actuation for 20 seconds, and the off actuation for 3 seconds. If the wash motor 26 is turned on, a drum 21 will rotate, and the washing 10 in a drum 21 is lifted and is dropped. a convention which does not collect on the pars basilaris ossis occipitalis in a drum 21 -- since

it is considering as water level, the washing 10 which fell collides with drum 21 inside directly. Therefore, compared with the condition that water collected on the inner pars basilaris ossis occipitalis of a drum 21, improvement in the increase of the fall impulse force and strike and according to increase of effectiveness washing effectiveness can be aimed at. Moreover, since the moisture contained in the washing 56 flows into a tank 23 side smoothly through the water flow hole 22 of a drum 1 when it falls, the water containing the dirt in the washing 10 can be made to flow out out of the washing 10 efficiently, and improvement in much more washing effectiveness can be aimed at.

[0021] Next, it explains per work of the baffle 56 at the time of rotating a drum 21. First, it falls, while the washing located in the part side which does not have a baffle 56 when the washing 10 will be lifted by the baffle 56 if a drum 21 carries out a RRC (the direction of arrow-head A) as shown in drawing 4 (a), rotation advances further and 56 moves [the baffle] up falls caudad and the twist of the direction of arrow-head B is added, and it collides with the inner base of a drum 21 directly. While the effectiveness of beat washing is added to the washing 10 by this, the twist force is also added and the washing engine performance is raised.

[0022] Moreover, if the location of a baffle 56 moves up as the washing 10 is lifted by the baffle 56 on the backside since a baffle 56 is shifted in the wall section of a drum 21 by turns and is formed in it as shown in drawing 4 (b), and shown in drawing 5, the washing 10 located in a part side without a baffle 56 will fall, next, it twists in the direction of B similarly, and the force will be applied and it will fall as mentioned above. If it continues rotating a drum 21 to a RRC (the direction of A), the twist force of the direction of the same direction and B will join the washing 10, and the washing 10 will be involved gradually.

[0023] Then, for 20 seconds, a control unit 40 inserts and carries out inverse rotation of the idle period for 3 seconds to it, after rotating a RRC (the direction of A). That is, a drum 21 is rotated in the direction of arrow-head C shown in drawing 4 (a). If rotation of this drum 21 is reversed, with the direction of arrow-head B, the twist force of the hard flow of arrow-head D, i.e., the direction, comes to join the washing 10, and the washing 10 will twine and it will come to remove.

[0024] Next, drawing 6 explains the actuation at the time of reversing rotation of a drum 21. It becomes [in / once / the part to which the washing 10 is in contact with back baffle 56b first if a hand of cut is changed to a RLC (the direction of arrow-head B) from a RRC (the direction of arrow-head A) when the washing 10 is near the maximum base of a drum 21, as the condition that drawing 6 developed the drum 21 is shown and it is shown in drawing slides down downward, and / near the maximum base] straight line-like a little. Although the part which was in contact with baffle 56b touches the following back baffle 56b first as a RLC progresses after that, the direction which touches baffle 56b is reversed in this case. Moreover, since the configuration of the washing 10 is usually uneven, when the direction which touches baffle 56b is reversed, the method, timing, etc. of migration change and it is urged to big migration before and after there is nothing at the time of rotation of the drum 21 same direction. The motion to the cross direction of a drum 21 can be sent to the washing 10 by this, circulating water of the shape of a shower breathed out from a delivery 39 can be poured on the washing 10 at homogeneity, and washing unevenness can be controlled. When only one place is prepared and a delivery 39 cannot sprinkle easily in a drum 21 from a delivery 39 like this example at homogeneity, it is effective to move the washing 10 forward and backward and to sprinkle the washing at homogeneity.

[0025] Although it is the above actuation at the wash process time, and the wash water with which the detergent melted is circulated and wash is gone on, if predetermined time passes, a drainage pump (not shown) will be operated, the wash water in a tank 23 will be discharged outside the plane, and a wash process will be ended. next, dehydrate the wash water which contained a part for a detergent by carrying out high-speed rotation of the drum 21 from the washing 56, or Or if it is made to dehydrate, opening a feed valve 53 and applying tap water during high-speed rotation of a drum 21 at the washing 10, while dehydrating the wash water contained in the washing 10 It can dilute with Shimizu to which a part for the detergent which remained into the washing 10 is supplied from a feed valve 53, such as tap water, and the following rinse process time amount can be shortened. In addition, he operates a drainage pump and is trying to discharge the wash water which flows out of a drum 21 into a tank 23 outside the plane

in the reserve rinse process of carrying out high-speed rotation of the above-mentioned drum 21. Also in this reserve rinse process, since forward inverse rotation of the drum 21 is carried out, a debt of the washing 10 is lessened and he is trying to make it move forward and backward at the time of a wash process moreover, the imbalance condition of the washing 10 which can rinse the washing to homogeneity and is generated at the time of high-speed rotation can also be reduced.

[0026] Also at the following rinse process, the same actuation as a wash process is performed. That is, while even convention water supplies water and pouring circulating water on the **** washing of operation for a circulating pump 37, a drum 21 is rotated, actuation which the washing 10 is lifted [actuation] and drops it is performed, and the amount of [which is contained in the washing 10] detergent is made to flow out. Forward inverse rotation of the drum 21 is carried out like the time of a wash process, and it enables it to perform a debt of the washing and migration [before and after] also in this rinse process. And if predetermined time passes, a drainage pump will be operated, the rinse water in a tank 23 is discharged outside the plane, and a rinse process is ended. In addition, the reserve rinse process of being made to perform the above-mentioned rinse process two or more times, and carrying out high-speed rotation of the drum 21 may be added to rinse carefully.

[0027] And at the last dehydration process, high-speed rotation of the drum 21 is carried out operating a drainage pump, and the moisture in the washing 10 in a drum 21 is dehydrated. This dehydration process is terminated after predetermined time. Also in this dehydration process, since forward inverse rotation of the drum 21 is carried out in a front rinse process, the imbalance condition of the washing 10 generated at the time of high-speed rotation can also be reduced.

[0028] (Example 2) In the 2nd example of this invention, since the basic configuration is the same as that of the 1st example, explanation is omitted. In drawing 7, the flank front face of a baffle 56 is made concave convex. Thus, when sliding after the washing is caught in a baffle 56 and lifted by making the flank front face of a baffle 56 concave convex, or in case it falls in the place of a certain amount of height, it is effective in removing dirt, as ground against the washboard by rubbing with the front face used as the concave convex of this baffle 56.

[0029] At this example, although the front face of a baffle 56 was made concave convex, even if it considers as the shape of a wave like drawing 8 or makes it the shape of a dimple like drawing 9, it cannot be overemphasized that almost equivalent effectiveness is acquired. In addition, the shape of a wave of a baffle 56 flank front face may be made into an abbreviation semicircle-like drawing 8 (b), and since it becomes be easy to grind with the washing, you may make it wave-like top-most vertices turn to the bottom like drawing 8 (c). What furthermore put slitting into the front face of a baffle 56 may be used, and if wash and rinse effectiveness can be gathered, it cannot be overemphasized that it is not what is limited to these.

[0030] As furthermore shown in drawing 10, the crevice and heights which are horizontally prolonged in the field which lifts the washing of baffle 56 front face are formed, and the crevice and heights which are prolonged in the direction of the center of rotation of wash-cum-a dehydration tack are formed in the end face which is not in contact with the flank of wash-cum-said dehydration tack on the front face of a baffle. Also in case the washing slides down from the end face of a baffle 56 by this configuration, the same operation as a washboard can be given and effectiveness, such as wash and a rinse, can be gathered.

[0031] (Example 3) In the 3rd example of this invention, since the basic configuration is the same as that of the 1st example, explanation is omitted. In drawing 11, the end side of a baffle 56 is prepared so that the flank of a drum 21 may be touched, and the height t1 by the side of the end is made high a little compared with the height t2 by the side of the other end. By this configuration, since the washing tends to slip down from the other end which is going to overcome not the high part near the drum flank of a baffle 56 but the low part by the side of the other end, or is not in contact with the flank of a baffle, while there is effectiveness of twist washing of the washing, since the washing and water tend to move to the one where a baffle is lower, the migration to order can increase at the time of rotation of a drum, and wash and rinse unevenness can be abolished.

[0032] (Example 4) In the 4th example of this invention, since the basic configuration is the same as that

of the 1st example, explanation is omitted. In drawing 12, the end has formed three front baffles located in the anterior part side of a drum 21, and three back baffles located in a posterior part side in the location which touches mostly in contact with the flank of a drum 21, and the baffle 56 is considering the height of a front baffle and a back baffle as a different configuration. That is, it is set as the height tb of the after [height ta>] baffle of a front baffle. Thus, if the height of a baffle 56 differs, the balance to which the washing moves forward and backward will be lost, it becomes easy to move the washing to a cross direction at the time of drum rotation, wash and rinse unevenness can be abolished, and effectiveness, such as wash and a rinse, can be gathered.

[0033] Moreover, three front baffles with which a baffle 56 is located in the anterior part side of a drum 21 as shown in drawing 13, a posterior part -- a side -- being located -- three -- a piece -- back -- a baffle -- an end -- a drum -- 21 -- a flank -- touching -- or -- almost -- touching -- a location -- preparing -- *** -- front -- a baffle -- back -- a baffle -- die length -- differing -- a configuration -- for example, -- front -- a baffle -- die length -- 1 -- one -- > -- after -- a baffle -- die length -- 1 -- two -- ***** -- The same effectiveness is acquired and effectiveness, such as wash and a rinse, can be gathered.

[0034] In addition, in this example, although the height or die length of a front baffle and a back baffle was considered as a different configuration, if the balance to which height and die length may be changed and the washing moves forward and backward can be lost, even if it uses the other approaches, it cannot be overemphasized that equivalent effectiveness is acquired.

(Example 5) Drawing 14 explains the 5th example of this invention. In drawing 14, it is the configuration of setting up shorter than the one half of the width of face of a drum 21 the die length of front baffle 56a prepared in the drum 21, and back baffle 56b, and forming Clearance S between each baffle. Since flection 10a occurs for the washing 10 and the bending force is given to this part by this configuration, engine performance, such as wash and a rinse, can be raised.

[0035] Moreover, if front baffle 56a and back baffle 56b are made to overlap conversely as shown in drawing 15 (overlap of die-length T), a small washing is lifted by the baffle and it does not fall simply in the case, and to the upper part, a small washing can also be lifted, and can be dropped, and wash and the rinse engine performance can be maintained.

[0036] In addition, in each above-mentioned example, although the number of baffles 56 was made into six pieces, if effectiveness, such as wash and a rinse, can be raised also four pieces, five pieces, or except [its] again, it cannot be overemphasized that the number of baffles 56 is not what is limited. moreover, each above-mentioned example -- setting -- spacing of a baffle 56 -- order alternation -- and although shifted at equal intervals, if it becomes, the thing for which effectiveness, such as wash and a rinse, can be gathered and which does not need to be order alternation or regular intervals cannot be overemphasized.

[0037] Moreover, in each above-mentioned example, although the baffle 56 is attached in parallel to the revolving shaft of a drum 21, it cannot be overemphasized that it is not what is limited to this. moreover -- although the baffle 56 is used as the abbreviation triangle pole in each above-mentioned example -- a triangular pyramid mold or a square pole mold -- other than this -- also coming out -- it cannot be overemphasized that a configuration is not asked if it is the configuration which can gather wash effectiveness.

[0038] As similarly shown in drawing 7, in case Clearance S is between a front baffle and a back baffle, when a hand of cut is changed from a RRC (the direction of a continuous line) to a RLC (the direction of a slash), the part which was in contact with baffle 56b first touches the following baffle 56b, and it is [0039].

[Effect of the Invention] While according to invention according to claim 1 the direction of a twist which joins the washing does not turn into an one direction and being able to prevent a debt of the washing since a drum rotates to both right and left so that clearly from the above-mentioned example, migration to a cross direction can also be promoted and effectiveness, such as wash and a rinse, can be gathered.

[0040] Moreover, according to invention of this invention according to claim 2, since the front face of a baffle was made concave convex, in case the washing slides down a baffle, the front face of a baffle can

carry out the same work as a washboard, and can gather effectiveness, such as wash and a rinse. Moreover, since the crevice and heights which are prolonged in the direction of the center of rotation of wash-cum-a dehydration tack are formed also in the end face which is not in contact with the flank of wash-cum-the dehydration tack on the front face of a baffle according to invention of this invention according to claim 5 The crevice and heights which were formed in the baffle end face also to the washing slid down from the end face of a baffle carry out work equivalent to a washboard, the mechanical power for wash and a rinse is obtained also in end faces other than the field which lifts the washing, and effectiveness, such as wash and a rinse, can be gathered further.

[0041] Moreover, since the height of the end of the baffle located in the flank side of wash-cum-a dehydration tack has set up more highly than the height by the side of the other end according to invention of this invention according to claim 6 The washing moves to a side with a low baffle from a side with an expensive baffle by rotation of wash-cum-a dehydration tack. After all, the washing will fall from a side with a low baffle, can drop the washing to the central site of wash-cum-a dehydration tack, and the washing can be hooked on a baffle, and can be lifted and it can always drop it. Furthermore, since the twist force of the washing by the baffle and the migration to washing order increase, wash and rinse unevenness can be abolished.

[0042] Since it can furthermore wash in all include angles by losing the balance to which the washing moves forward and backward, and preventing carrying out the motion with the always same washing, since the difference was given to migration of the cross direction of the washing with the front baffle and the back baffle according to invention according to claim 7, wash and rinse unevenness can be abolished and effectiveness, such as wash and a rinse, can be gathered.

[Translation done.]

*** NOTICES ***

JPO and INPI are not responsible for any
damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] Wash-cum-the dehydration tank which has a revolving shaft horizontally and prepared the water flow hole in the peripheral surface, and the tank which connotes said wash-cum-dehydration tank, It has the motor which carries out the rotation drive of said wash-cum-dehydration tank, and the control means which controls the energization to said motor. It is the washing machine which forms two or more baffles in the direction of a revolving shaft at the wall section of wash-cum-said dehydration tank, and is shorter than the width of face of wash-cum-said dehydration tank as for these baffles, shifts and allots at least one in the direction of a revolving shaft, and is characterized by said control means carrying out the forward inverse rotation drive of said wash-cum-dehydration tank.

[Claim 2] The washing machine according to claim 1 which made the front face of a baffle concave convex.

[Claim 3] The washing machine according to claim 2 which made concave convex the shape of a wave.

[Claim 4] The washing machine according to claim 2 which made concave convex the shape of a dimple.

[Claim 5] The washing machine according to claim 2 which formed the crevice and heights which are prolonged in the level direction in the field which lifts the washing on the front face of a baffle, and formed the crevice and heights which are prolonged in the direction of the center of rotation of wash-cum-a dehydration tank in the end face which is not in contact with the flank of wash-cum-said dehydration tank on the front face of a baffle.

[Claim 6] The washing machine according to claim 1 which the height of the end of the baffle located in the flank side of wash-cum-a dehydration tank set up more highly than the height by the side of the other end.

[Claim 7] A baffle is a washing machine according to claim 1 which consists of two or more front baffles located in the anterior part side of wash-cum-a dehydration tank, and two or more back baffles located in a posterior part side, and is characterized by setting up so that a difference may produce said front baffle and back baffle in migration of the cross direction of the washing.

[Claim 8] The washing machine according to claim 7 which changed the height of a front baffle and a back baffle.

[Claim 9] The washing machine according to claim 7 which changed the die length of a front baffle and a back baffle.

[Claim 10] The washing machine according to claim 7 which changed the height and die length of a front baffle and a back baffle.

[Translation done.]

*** NOTICES ***

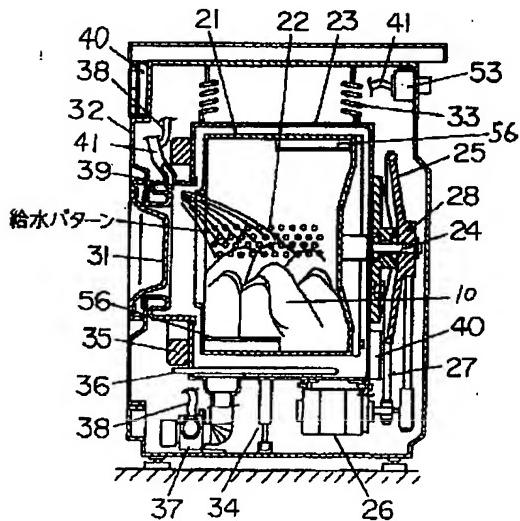
JPO and INPI are not responsible for any damages caused by the use of this translation.

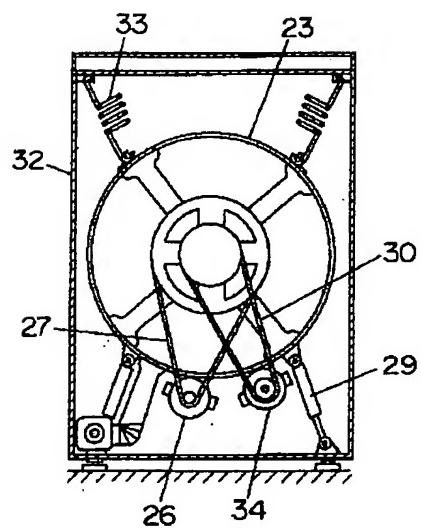
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

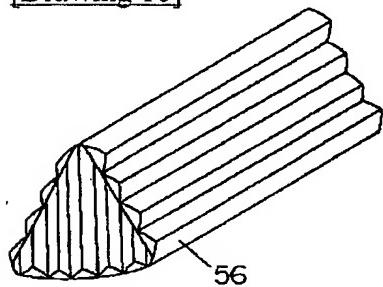
[Drawing 1]

21---ドラム
22---通水孔
23---水槽
24---回転軸
26---洗濯モータ
32---本体
40---制御手段
56---パッフル

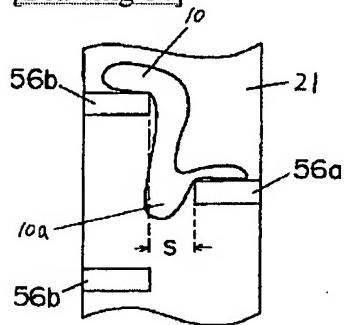
**[Drawing 2]**



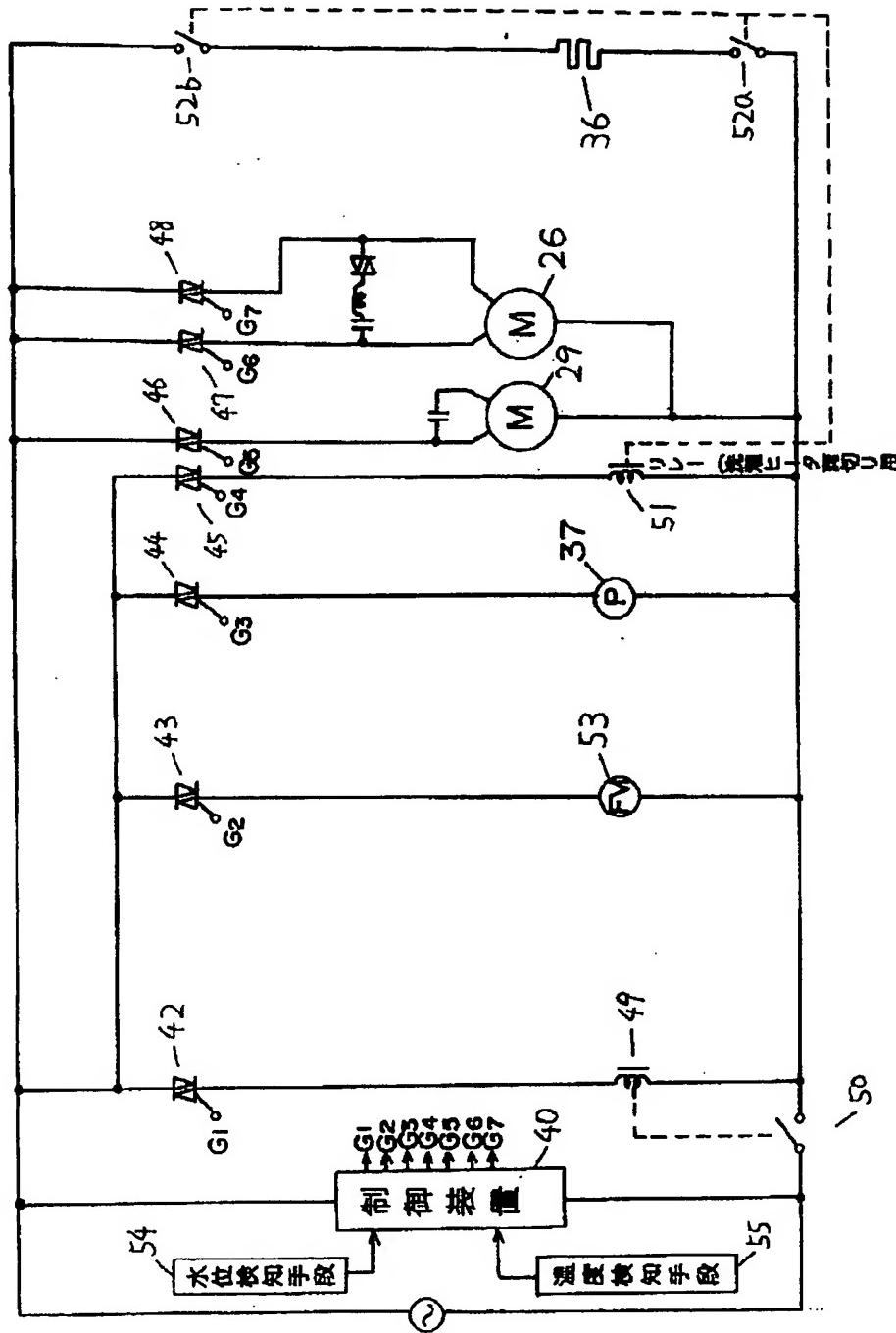
[Drawing 10]



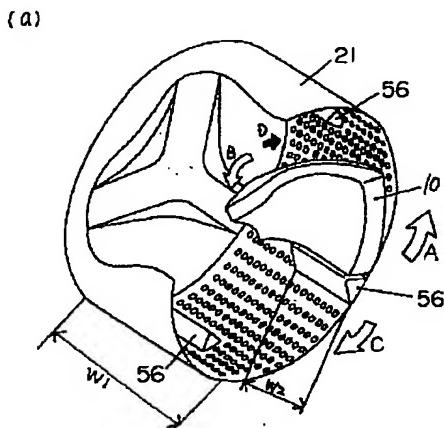
[Drawing 14]



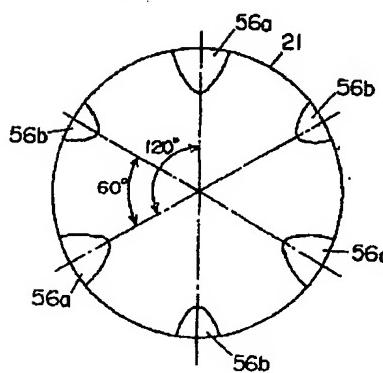
[Drawing 3]



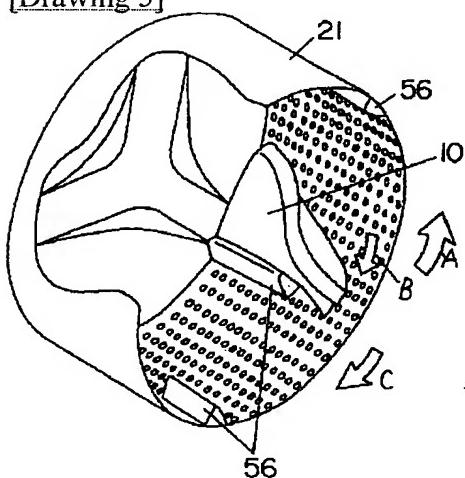
[Drawing 4]



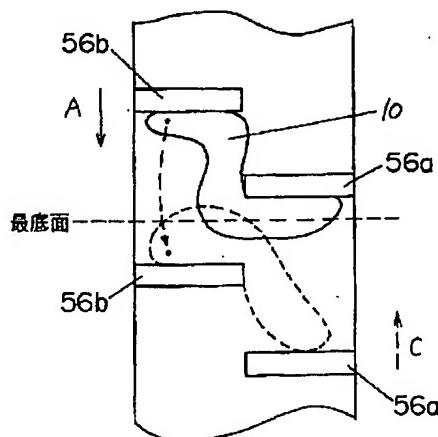
56a---前/バックル
56b---後/バックル



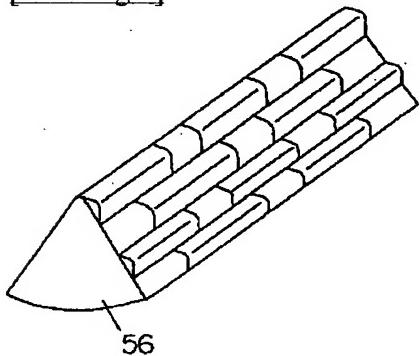
[Drawing 5]



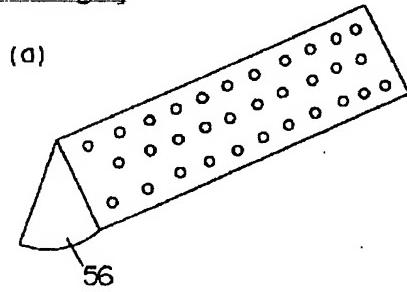
[Drawing 6]



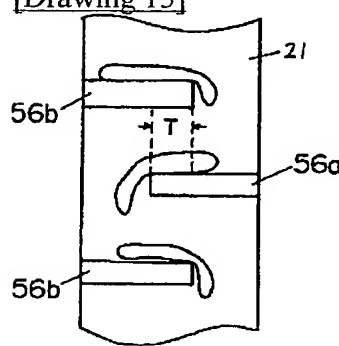
[Drawing 7]

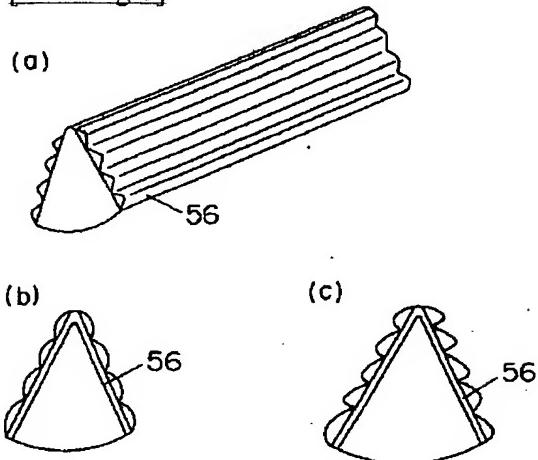
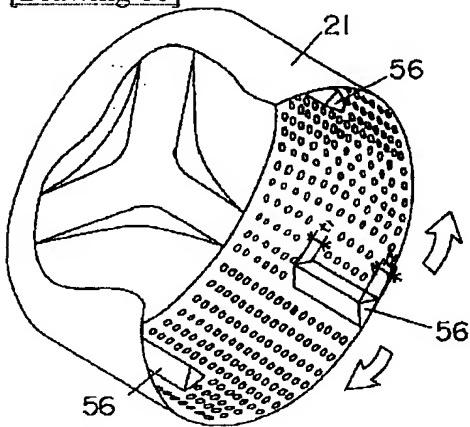
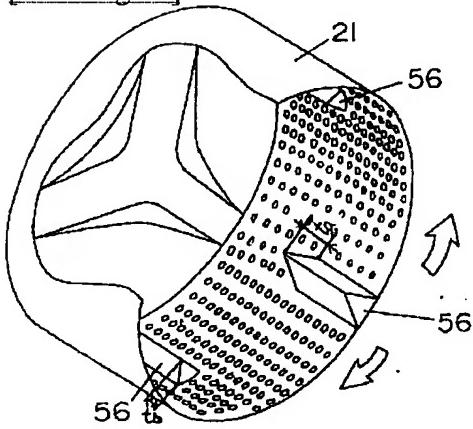


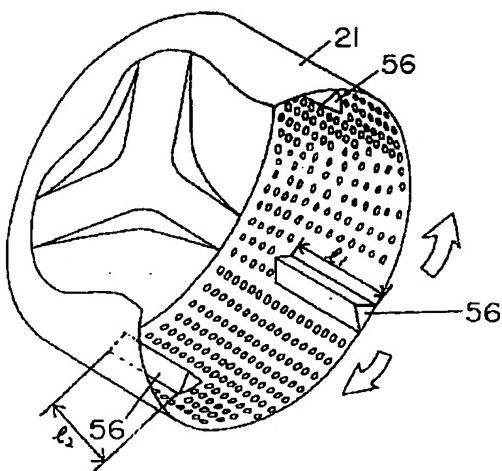
[Drawing 9]



[Drawing 15]



[Drawing 8][Drawing 11][Drawing 12][Drawing 13]

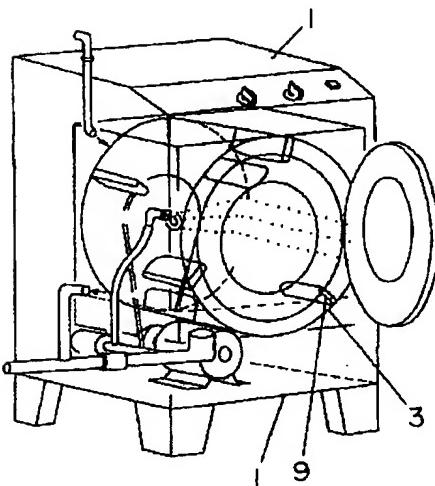


[Drawing 16]

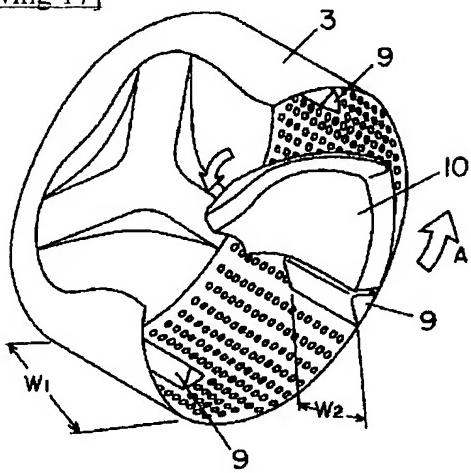
1...本体

3...回転ドラム

9...パッフル



[Drawing 17]



[Translation done.]